

AMENDMENTSAmendments to the Claims:

1. (Currently Amended) A method of forming an interconnect in a substrate which includes one or more dielectric layers and a copper deposit, said method comprising: forming a trench in the substrate; forming a via in the substrate to the copper deposit; depositing a an interconnect liner layer of aluminum-0.5% copper aluminum-copper alloy in the trench and via and on the copper deposit; depositing copper onto the aluminum-0.5% copper aluminum-copper alloy interconnect liner layer; and polishing the copper.
2. (Currently Amended) A method as recited in claim 1, wherein the step of depositing a layer of aluminum-0.5% copper aluminum-copper alloy comprises depositing the aluminum-0.5% copper alloy using a PVD technique.
3. (Currently Amended) A method of forming an interconnect in a substrate which includes one or more dielectric layers and a copper deposit, said method comprising: forming a trench in the substrate; forming a via in the substrate to the copper deposit; depositing an intermediate liner layer in the trench and via and on the copper deposit; depositing a an interconnect liner layer of aluminum-0.5% copper aluminum-copper alloy on the intermediate layer; depositing copper onto the aluminum-copper alloy; and polishing the copper.

Serial No.: 10/615,042
Art Unit: 2815
Page 2

4. (Currently Amended) A method as recited in claim 3, wherein the step of depositing a layer of aluminum-0.5% copper aluminum-copper alloy comprises depositing the aluminum-0.5% copper alloy using a PVD technique.

5. (Original) A method as recited in claim 3, wherein the step of depositing an intermediate liner layer comprises depositing Ta/TaN.

6. (Currently Amended) An interconnect in a substrate which includes one or more dielectric layers, said interconnect comprising a first copper deposit, a second copper deposit, and an aluminum-0.5% copper aluminum-copper alloy interconnect liner disposed between and in contact with the first and second copper deposits and between the second copper deposit and at least one of the dielectric layers.

7. (Currently Amended) An interconnect as recited in claim 6, wherein the aluminum-0.5% copper aluminum-copper alloy interconnect liner has been deposited using a PVD technique.

Serial No.: 10/615,042
Art Unit: 2815
Page 3

8. (Currently Amended) An interconnect in a substrate which includes one or more dielectric layers, said interconnect comprising a first copper deposit, a second copper deposit, a an intermediate interconnect liner disposed between the first and second copper deposits and in contact with the first copper deposit; and an aluminum-0.5% copper aluminum-copper alloy interconnect liner disposed between the first and second copper deposits, and between the second copper deposit and at least one of the dielectric layers, and in contact with the second copper deposit.

9. (Currently Amended) An interconnect as recited in claim 8, wherein the aluminum-0.5% copper aluminum-copper alloy interconnect liner has been deposited using a PVD technique.

10. (Original) An interconnect as recited in claim 8, wherein the intermediate interconnect liner comprises Ta/TaN.

11. (New) A method as recited in claim 1, further comprising depositing the interconnect layer such that said interconnect liner is in contact with the copper deposit.

12. (New) A method as recited in claim 1, wherein the step of depositing the interconnect liner layer comprises depositing a layer of aluminum-0.5% copper alloy.

Serial No.: 10/615,042
Art Unit: 2815
Page 4

13. (New) A method as recited in claim 3, wherein the step of depositing the interconnect liner layer comprises depositing a layer of aluminum-0.5% copper alloy.

14. (New) An interconnect as recited in claim 8, wherein said aluminum-copper alloy interconnect liner comprises a layer of aluminum-0.5% copper alloy.

Serial No.: 10/615,042

Art Unit: 2815

Page 5